

# New ophthalmology course AFCM

## **Problems of external appearance 10%**

### I. Eyelids and Lacrimal problems

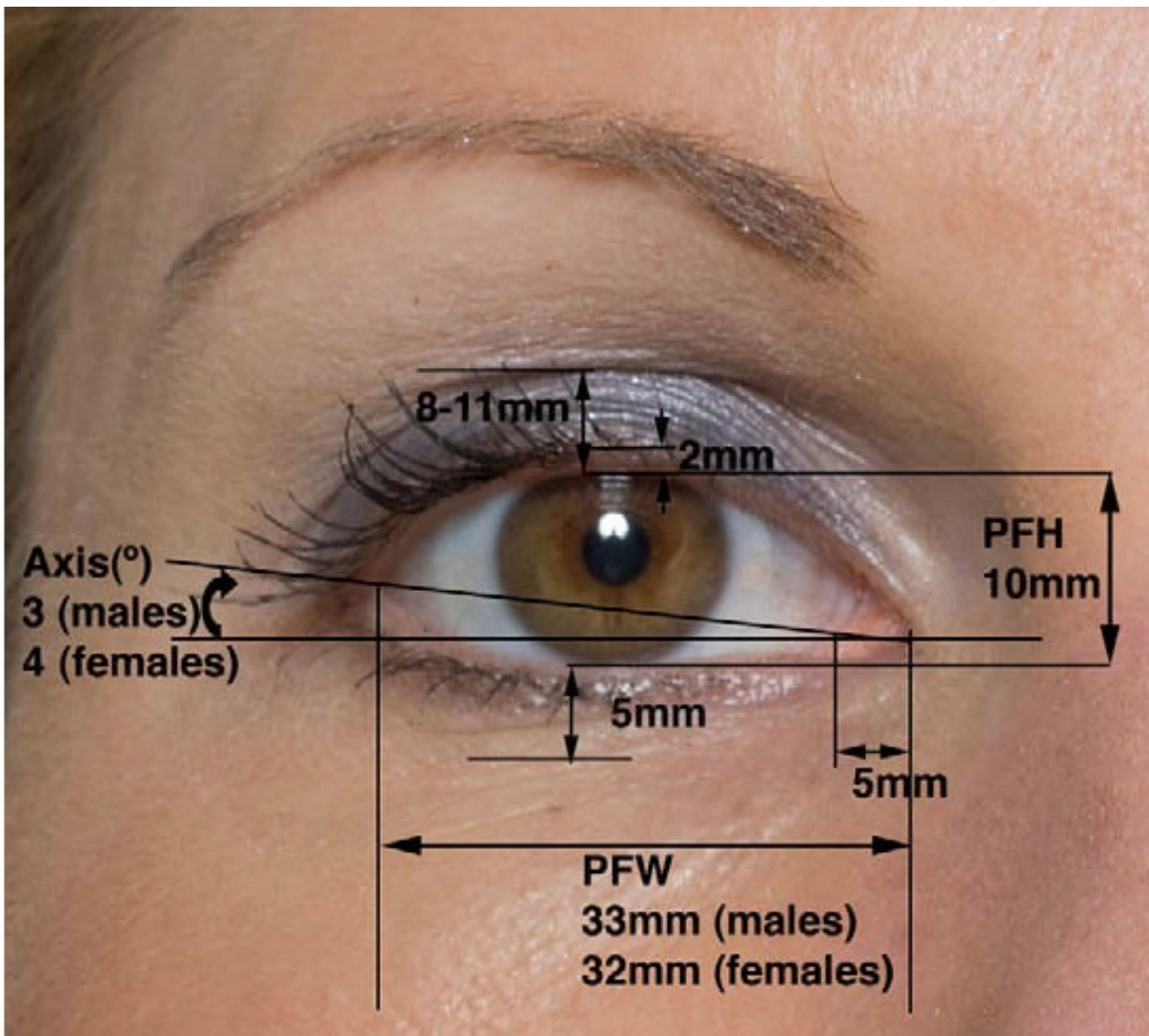
# INTENDED LEARNING OBJECTIVES (ILO)



By the end of this lecture the student will be able to:

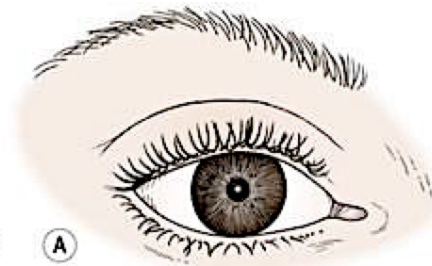
1. Illustrate the anatomy of the eyelids and lacrimal drainage system
2. Identify common eyelid and lacrimal disorders.
3. Describe the clinical picture of different eyelid and lacrimal diseases.
4. List the different causes and treatment options of these disorders
5. Know when to refer a lid and lacrimal

# Normal External Appearance



Margin Reflex Distance (MRD)

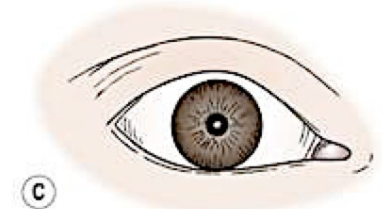
Normal  
 $MRD_1 = 4 \text{ mm}$   
 $MRD_2 = 5 \text{ mm}$   
 Palpebral fissure = 9



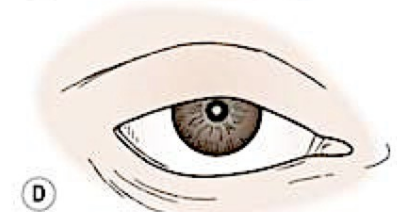
Upper lid ptosis  
 $MRD_1 = 2 \text{ mm}$   
 $MRD_2 = 5 \text{ mm}$   
 Palpebral fissure = 7



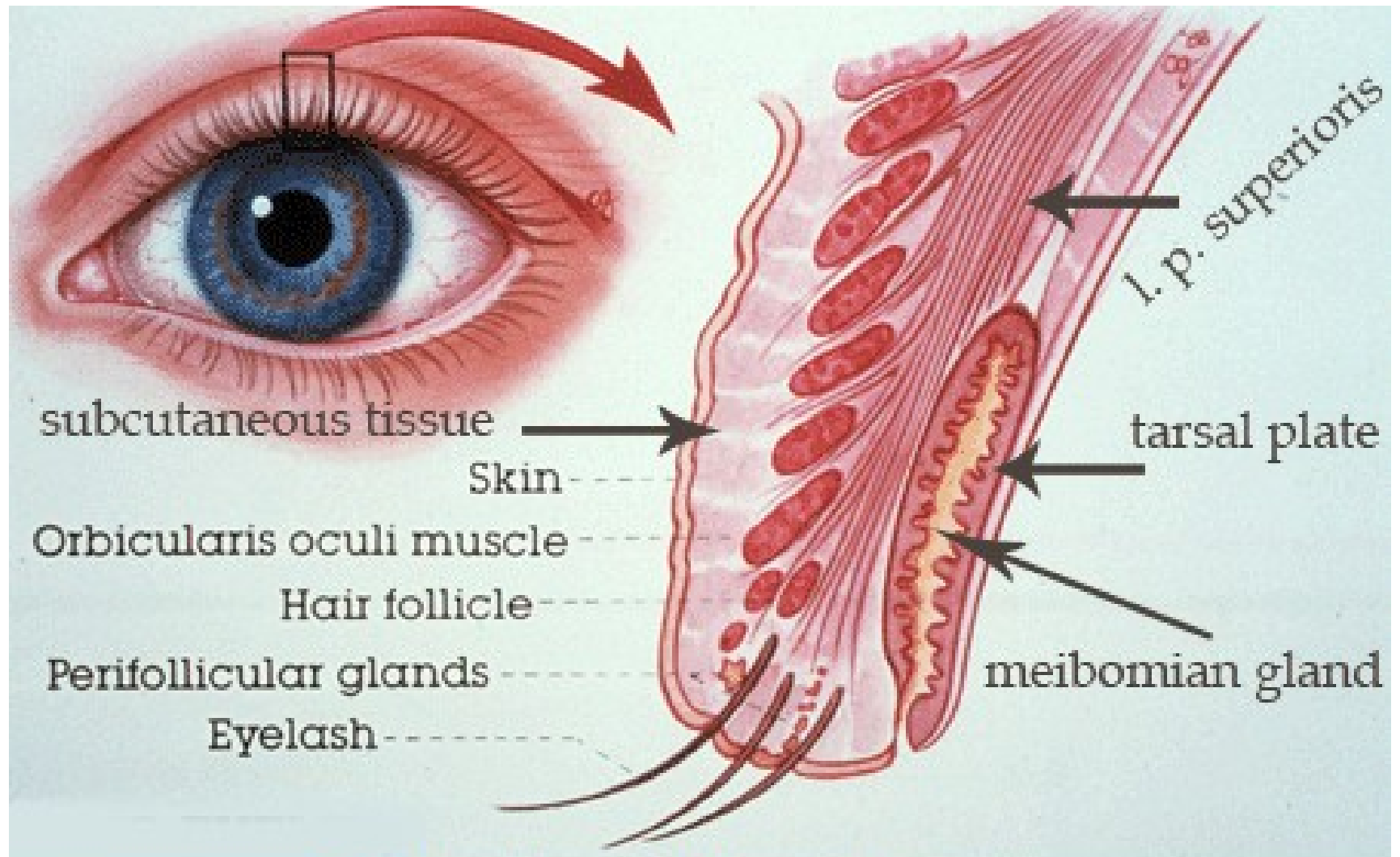
Upper lid retraction  
 $MRD_1 = 7 \text{ mm}$   
 $MRD_2 = 5 \text{ mm}$   
 Palpebral fissure = 12



Upper lid ptosis and lower lid retraction  
 $MRD_1 = 1 \text{ mm}$   
 $MRD_2 = 8 \text{ mm}$   
 Palpebral fissure = 9



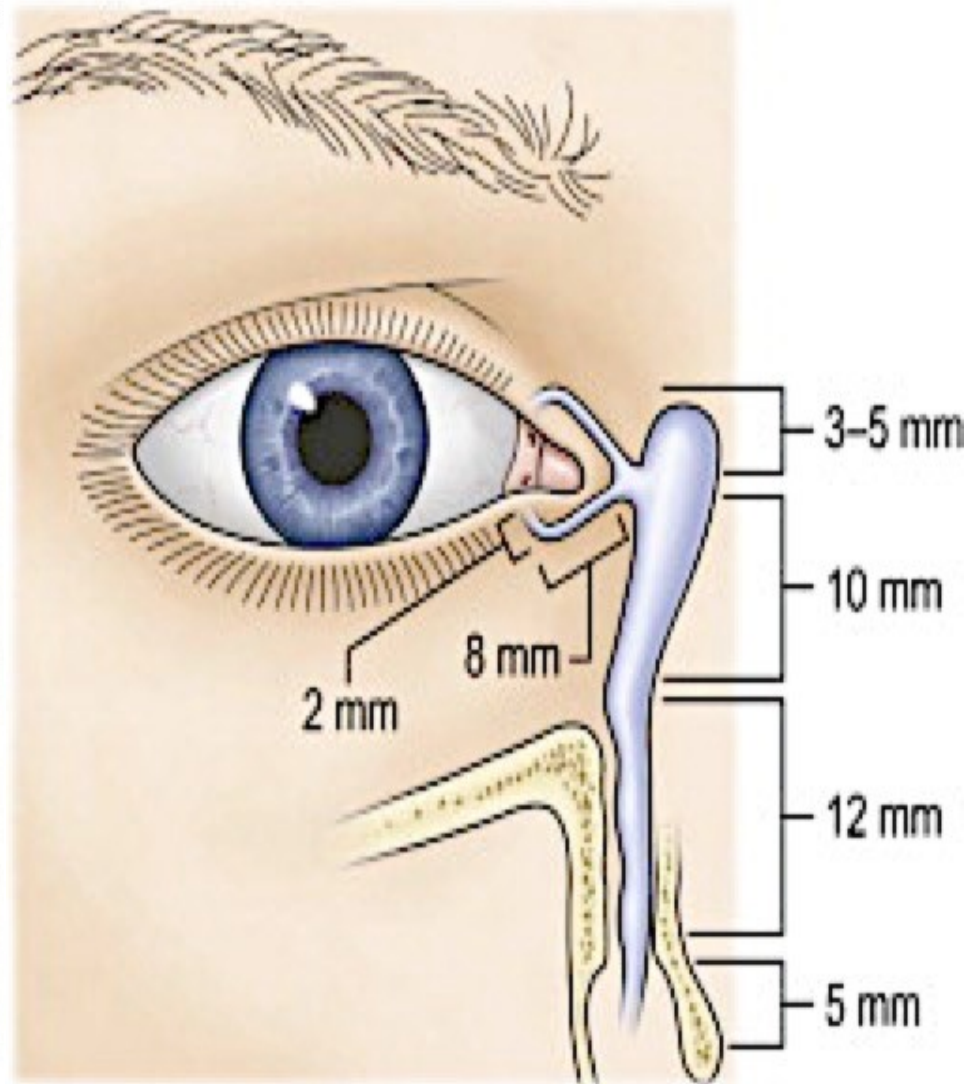
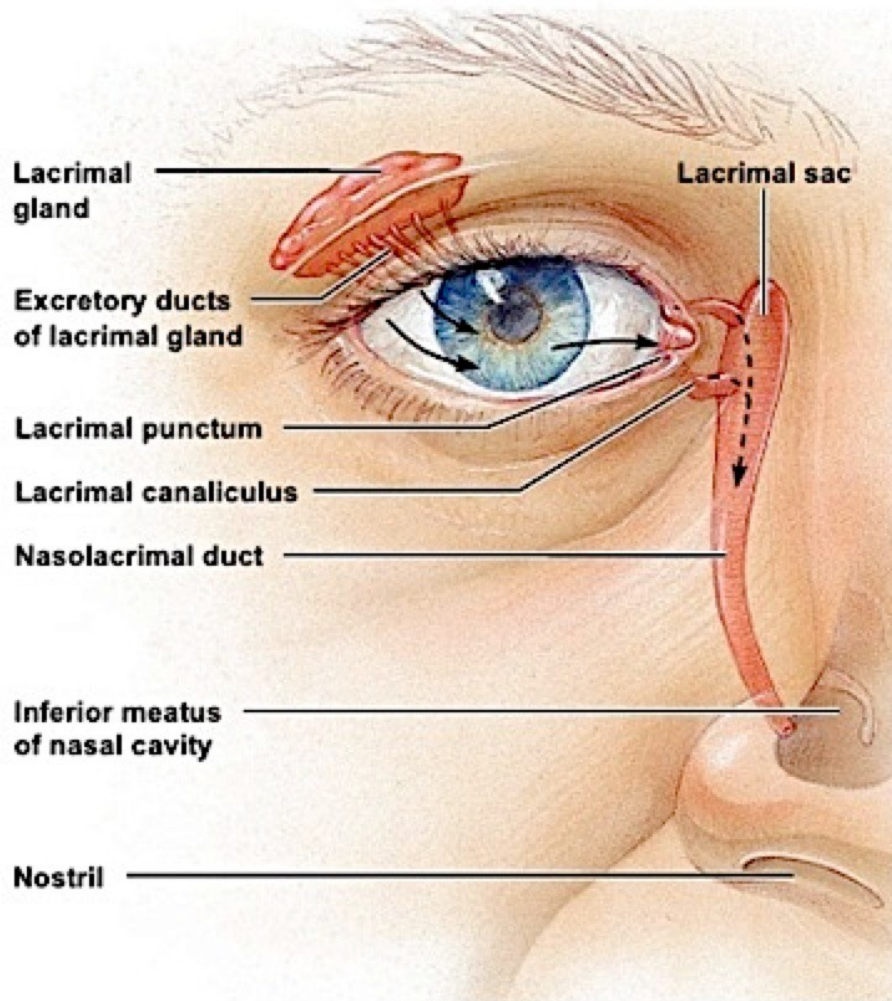
\*Note palpebral aperture measurement is the same for example A and D.





# Lacrimal System

## The lacrimal apparatus



# Eyelids and Lacrimal problems

- Swellings
- Blepharitis
- Malpositions
- Epiphora

# Eye Lid

- **Inflammations:**

- **Acute:**

- Hordeolum externum (stye)
    - Hordeolum internum (acute chalazion)

- **Chronic:**

- Blepharitis
    - chalazion

- **Malpositions:**

- Ptosis
  - Entropion and ectropion
  - Lagophthalmos

- **Tumors**

- **Benign:** papilloma and nevus
  - **Malignant:** basal cell carcinoma

# SWELLINGS

- **STYE:**

- Acute suppurative inflammation of appendages related to cilia
- points on lid margin    **zeis gl.**
- **topical antibiotics** and **hot compresses**                      **horizontal**

- **ACUTE CHALAZION:**

- Acute suppurative inflammation of a **Meibomian gland**
- larger and more diffuse inflammation-----□more **pain**
- points on the conjunctival side
- **oral** and **topical antibiotics** and **hot compresses**

- **CHALAZION:** كيس الدهني

- Chronic inflammation of a Meibomian gland or follows an acute chalazion
- Firm localized nodule in the tarsus with little edema
- **Treatment:** **incision and curettage** from **conjunctival side**  
**vertical**



# Acute Hordeolum

Site	Hair follicle	Meibomian gland
Causes	<u>Eye fatigue from lack of sleep or asthenopia or systemic diseases as diabetes.</u> Infection by <a href="#">staphylococci</a> .	
Clinically	acute inflammation pain, redness, lid edema	
	Near the lid margin, the skin side and generally smaller	Away from the margin conjunctival side of the lid, Larger
Treatment	oral and topical antibiotics and hot fomentations followed by <u>correction of underlying cause</u> especially in recurrent cases	



**STYE**



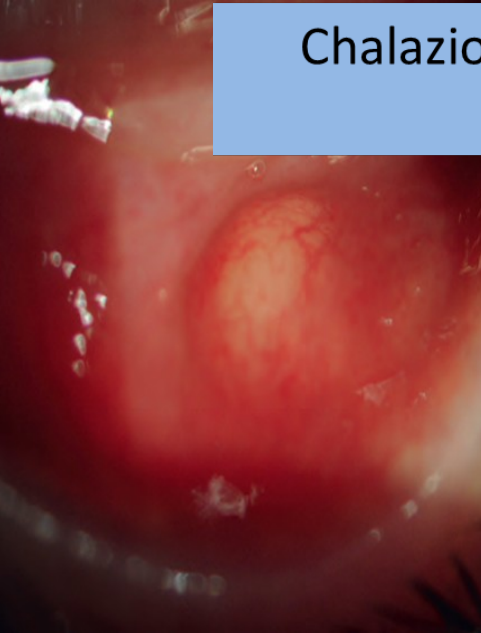
**ACUTE CHALAZION**



## Chalazion



Chalazion is better seen from the conjunctival side



- ECZEMA
  - **Topical** medications, makeup (history)
  - **Itching** clear
  - **Scaling, skin thickening** common
- PRESEPTAL CELLULITIS:
  - diffuse lid inflammation **in front** of the orbital septum
  - more in **children**
  - ocular **motility, vision are free** (dd orbital cellulitis). If in doubt hospitalize
  - **Parenteral** broad spectrum antibiotics

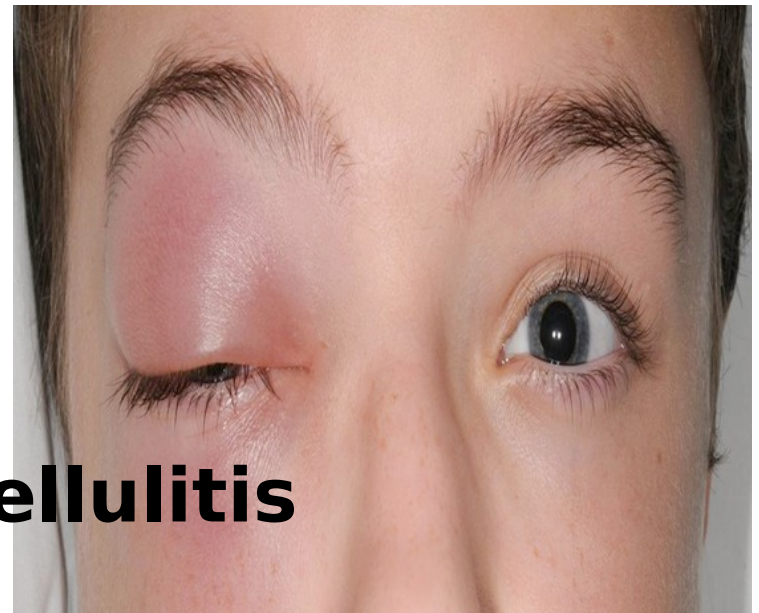




**Lid Eczema**



**Preseptal Cellulitis**



# BLEPHARITIS

- Inflammation of the lid margins
- May be anterior, posterior or combined
- Anterior may be
  - **Squamous** قشر
  - **ulcerative** (*S.aureus*)
- Posterior-□**meibomianitis**

- Complications
  - **Ptylosis**-□ thick margin
  - **Madarosis**□loss of lashes
  - **Epiphora**
  - **Chronic conjunctivitis**
  - **Toxic keratitis**
- Treatment
  - Treat underlying cause (error, dry eye, rosacea..etc.)
  - Lid hygiene
  - Oral tetracycline                      anticholagenase
  - Erythromycin eye ointment
  - Topical antibiotic/steroids

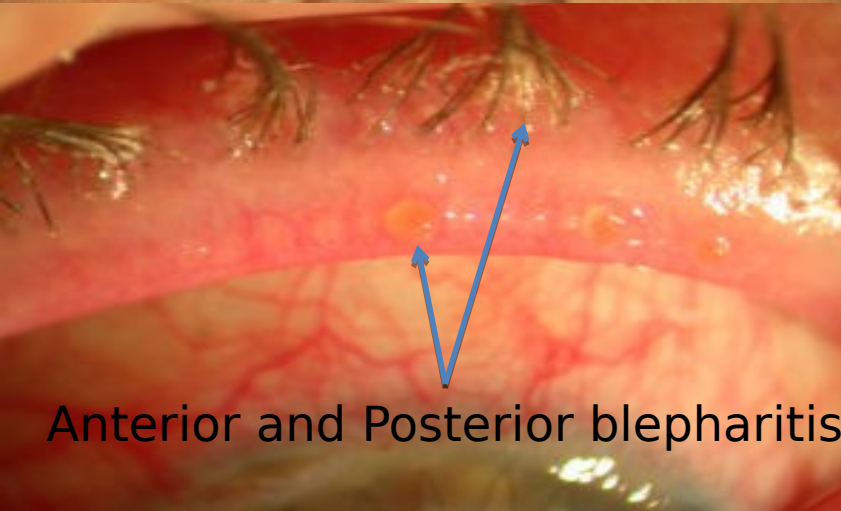




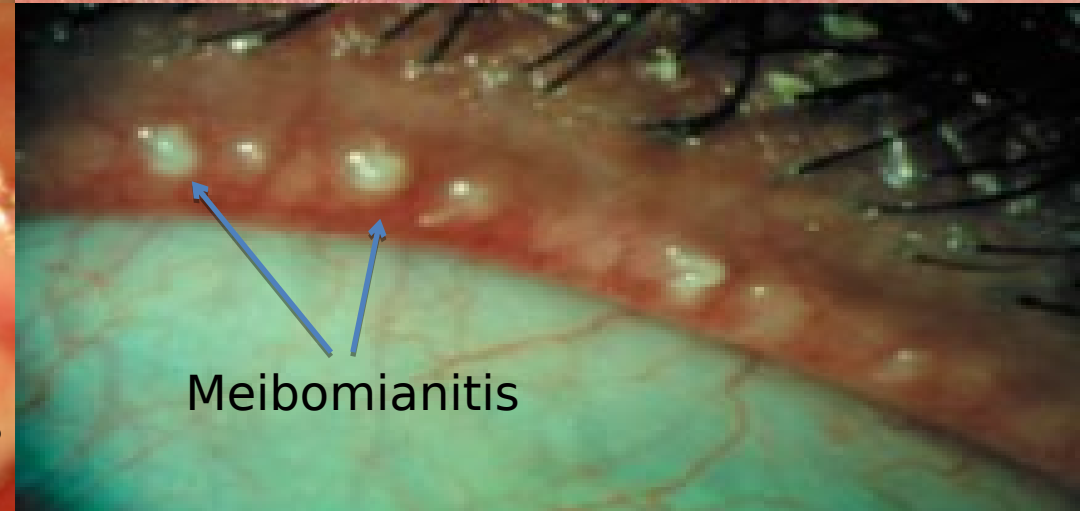
Squamous Blepharitis



Ulcerative Blepharitis



Anterior and Posterior blepharitis



Meibomianitis

# MALPOSITIONS

- Ptosis
- Trichiasis
- Entropion
- Ectropion
- Lagophthalmos

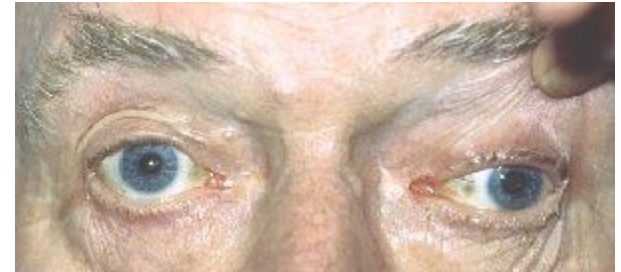
# Lid malpositions

## Ptosis

- Drooping of upper eyelid below its normal position (2mm)
- Can be unilateral or bilateral
- Unilateral ptosis may be
  - Congenital
  - Horner
  - Third nerve palsy
  - Mechanical: edema, mass
- Bilateral ptosis may be
  - Congenital
  - Involutional (levator tendon dehiscence)
  - Neuromuscular (myasthenia-□look for diplopia)

# Ptosis

- Causes:
  - Congenital
    - The most common : dystrophy of the levator muscle
  - Paralytic
    - 3<sup>rd</sup> nerve palsy: ptosis + exotropia +/- dilated pupil  
HMG , tumor
  - Neuromuscular
    - Variable and occurs





# Ptosis

Horner's syndrome

molar m.

- Sympathetic denervation and is characterized by mild ptosis, miosis and facial anhidrosis.

Involutional (aponeurotic)

- Weak or stretched levator aponeurosis
  - Old age      trauma      following cataract surgery
- Inflammatory (mechanical)
  - Chalazion      allergy      lid edema



Congenital (myogenic) ptosis

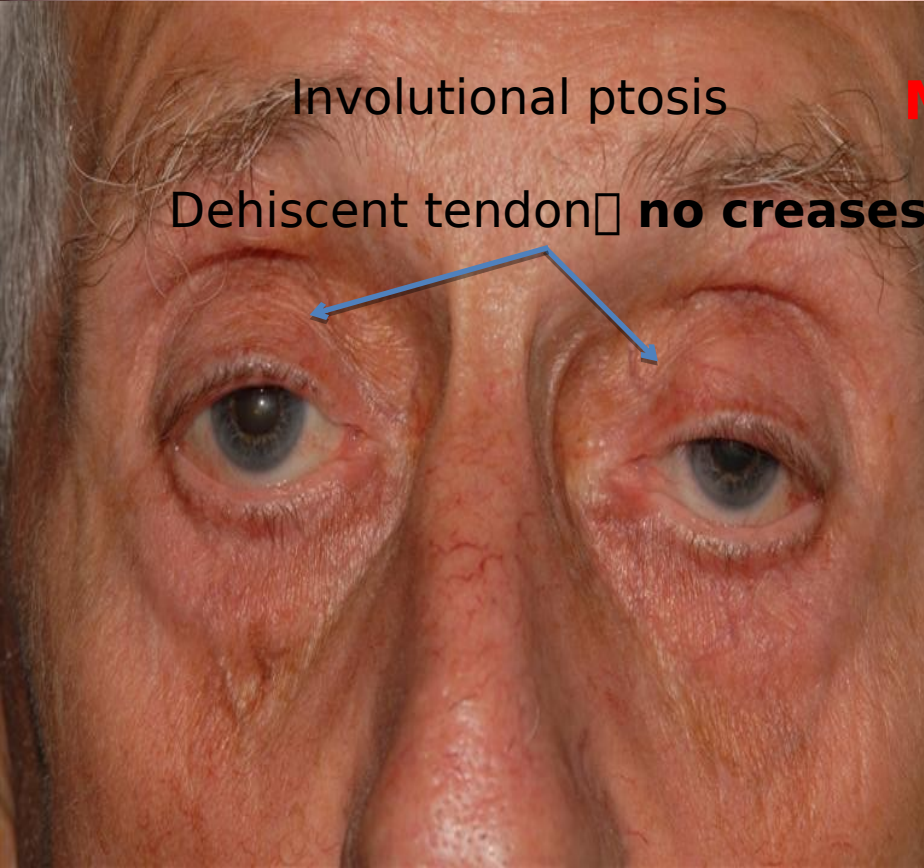


Mechanical ptosis



Involutional ptosis

Dehiscent tendon □ **no creases**



**Myasthenic (neuromuscular) ptosis**



no ptosis

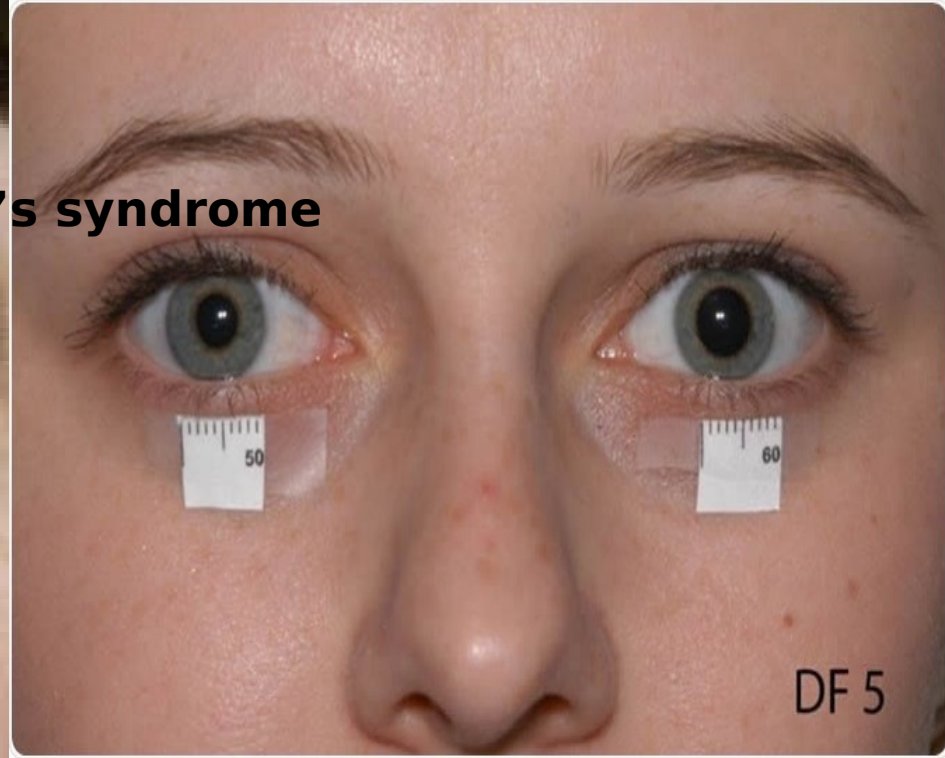


ptosis

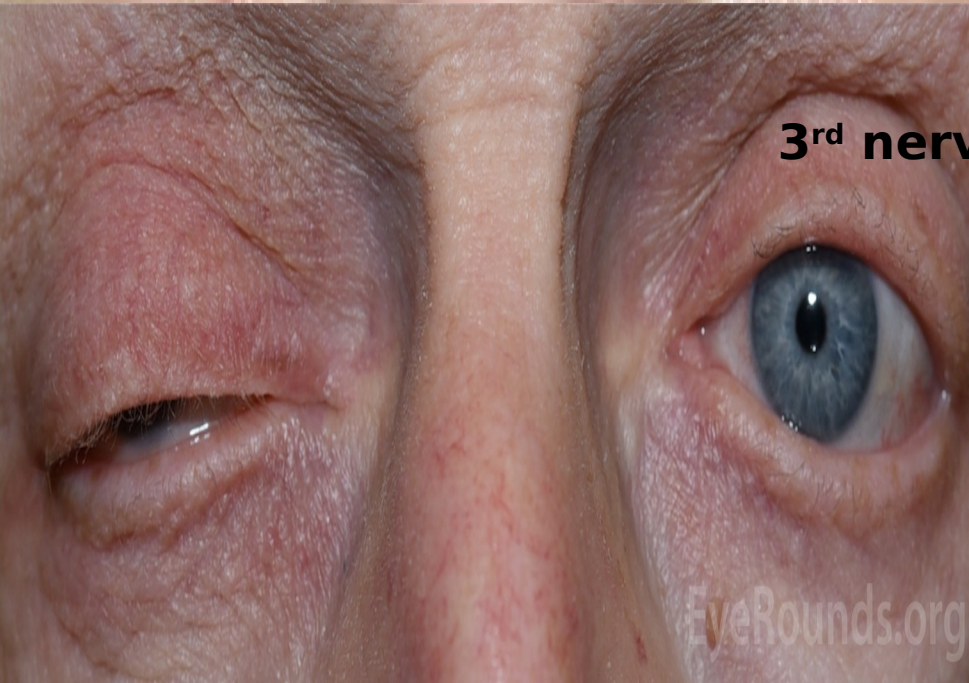




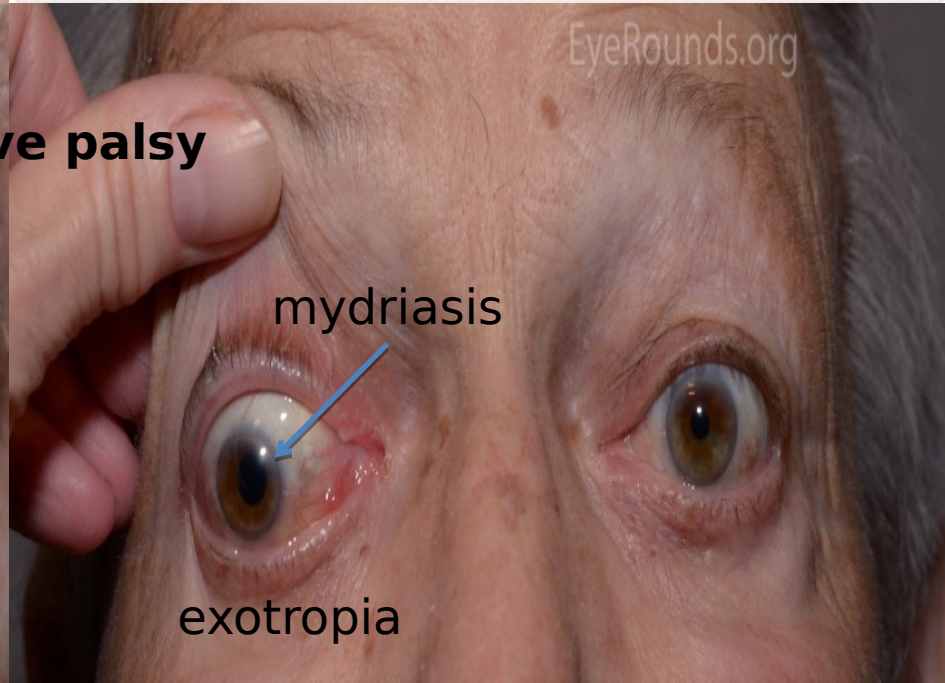
**Horner's syndrome**



DF 5



**3<sup>rd</sup> nerve palsy**



mydriasis

exotropia



# Ptosis Evaluation

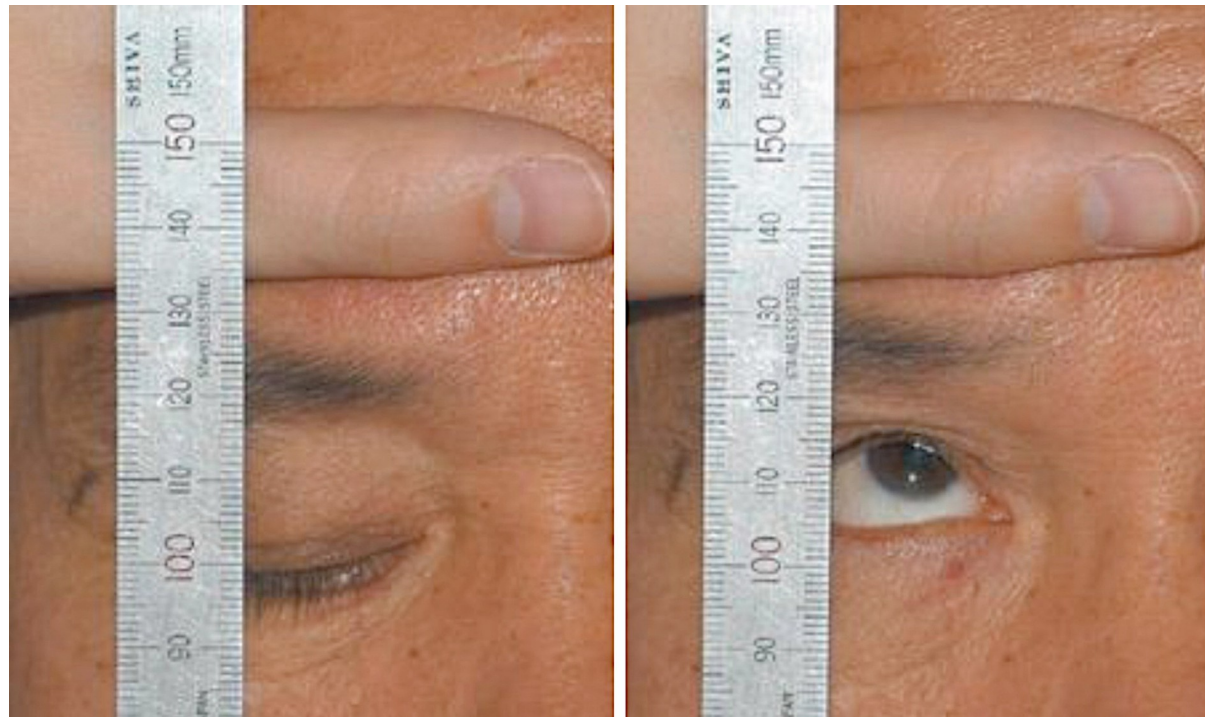
- History: since birth (congenital) or acquired, variable or progressive
- Look at old photos
- Examination
  - **MRD**--□degree of ptosis
  - Levator action--□**Burke's** ruler test
  - Associated squint or lagophthalmos
  - **Bell's** phenomenon
  - Corneal sensation          trigeminal
  - Special tests: Tensilon in Myasthenia, **Apraclonidine** drops in Horner

## Marginal reflex distance 5mm



**Berke's test for levator action;** normal action in the range of **15 mm**  
Note thumb pressing frontalis to prevent its action

Lower lid is elevated 4mm in action



# Ptosis

- Management
  - Treatment of the cause
    - Diabetic 3<sup>rd</sup> nerve palsy
    - Inflammation
    - Myasthenia
  - Surgery
    - **Levator resection**
      - Mild to moderate ptosis with good levator function **15:12**
    - **Frontalis suspension**
      - Severe ptosis with poor levator function **<8**

# FRONTALIS SLING WITH FASCIA LATA



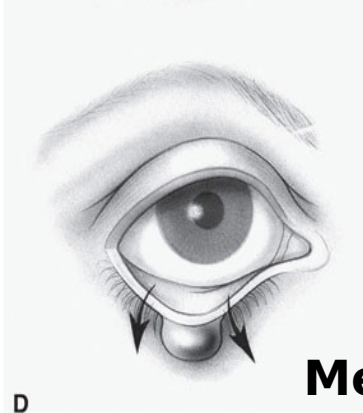
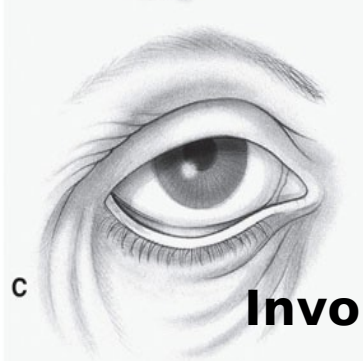
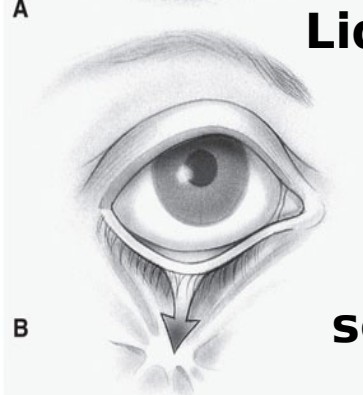
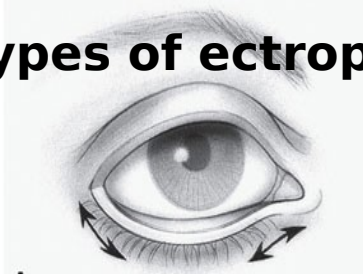
# Lid malpositions

## Ectropion

- Rolling out of **lower** lid margin
- Unilateral or bilateral
- Mild (punctum eversion), moderate or severe
- Complications: **epiphora** and **chronic conjunctivitis**
- Causes
  - **Involucional**: horizontal laxity of lid tissues and ligament by age large globe
  - **Cicatricial**: fibrosis of the skin
- Treatment is **mostly surgical**



# Degree of ectropionTypes of ectropion



**Lid laxity**

**scar**

**Involutional**

**Mechanical**



# Lid malpositions

## Entropion and Trichiasis

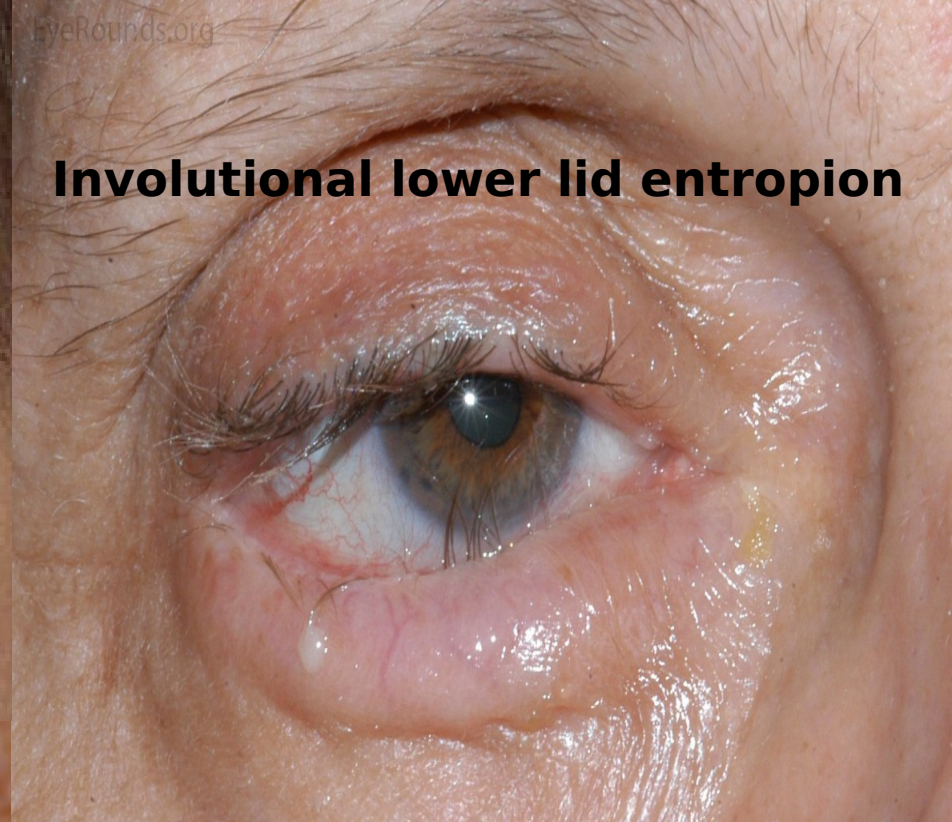
- Trichiasis is rubbing of many lashes against the cornea
- Entropion is inward rolling of lid margin
- Common causes are
  - **Cicatricial**: fibrosis of conjunctiva
  - **Involutional**: horizontal laxity of lid and ligaments with age and sunken globe
- Complications are mainly **corneal** (**abrasions, ulcers and scars**)
- Treatment is frequently **surgical**



Congenital Entropion



Involucional lower lid entropion



Cicatricial entropion in **TRACHOMA**



# Lid malpositions

## Lagophthalmos

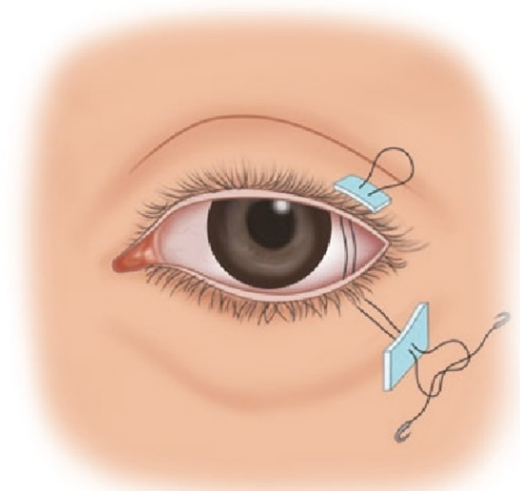
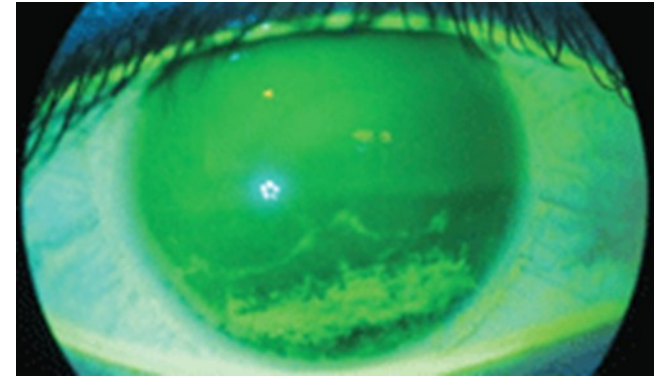
- Lagophthalmos is incomplete closure of palpebral fissure when eye is closed
- Causes:
  - Idiopathic (nocturnal)
  - Paralytic (7<sup>th</sup> nerve)
  - With coma
  - With proptosis
  - Parotid gland disease/ tumors



# Lid malpositions

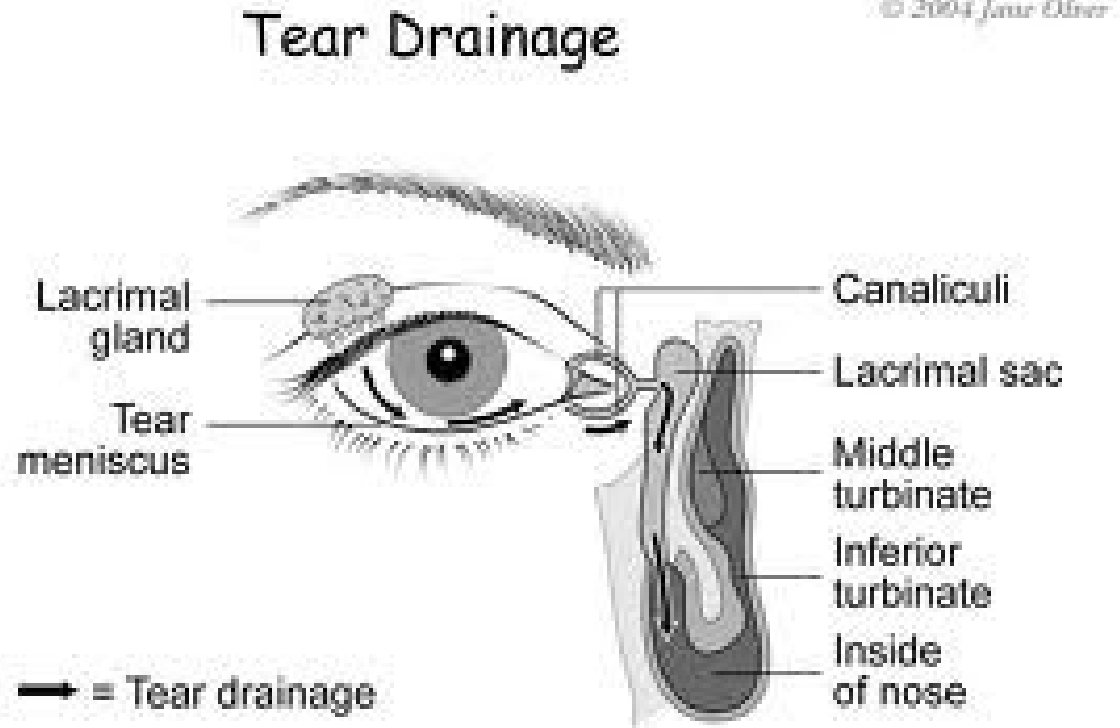
## Lagophthalmos

- Complications:
  - Chronic conjunctivitis
  - Dry stained cornea
  - Corneal ulcer-□scarring
- Treatment: **conservative** as artificial tears and eye ointment lubricant or **surgical** by tarsorrhaphy



# EPIPHORA

- Definition
- Causes
- Investigation
- Complication
- Treatment

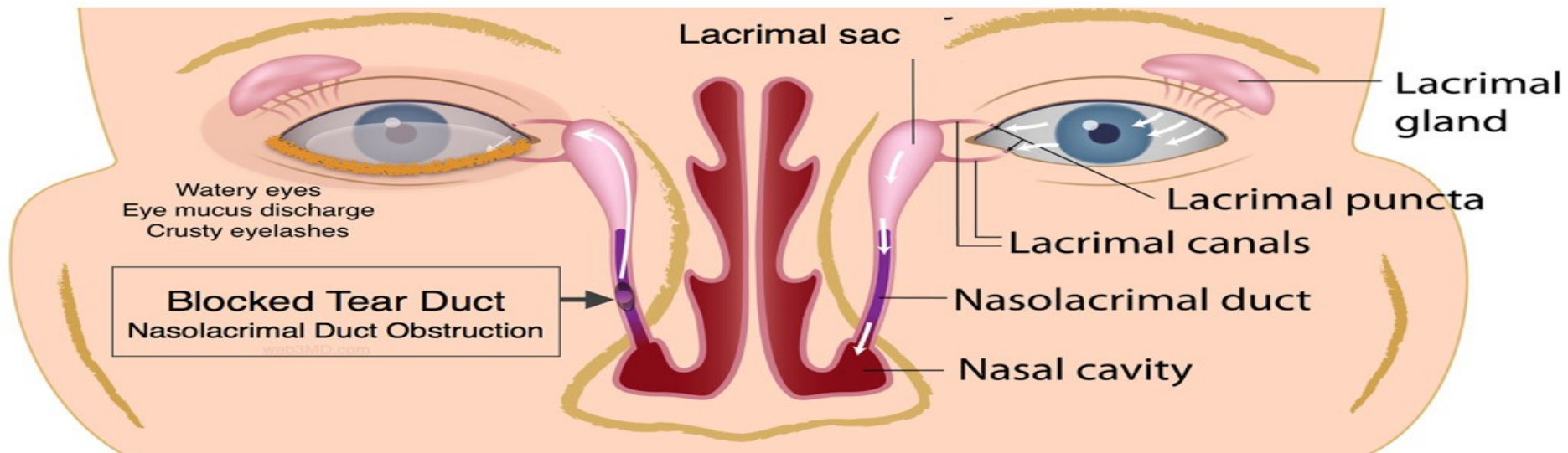


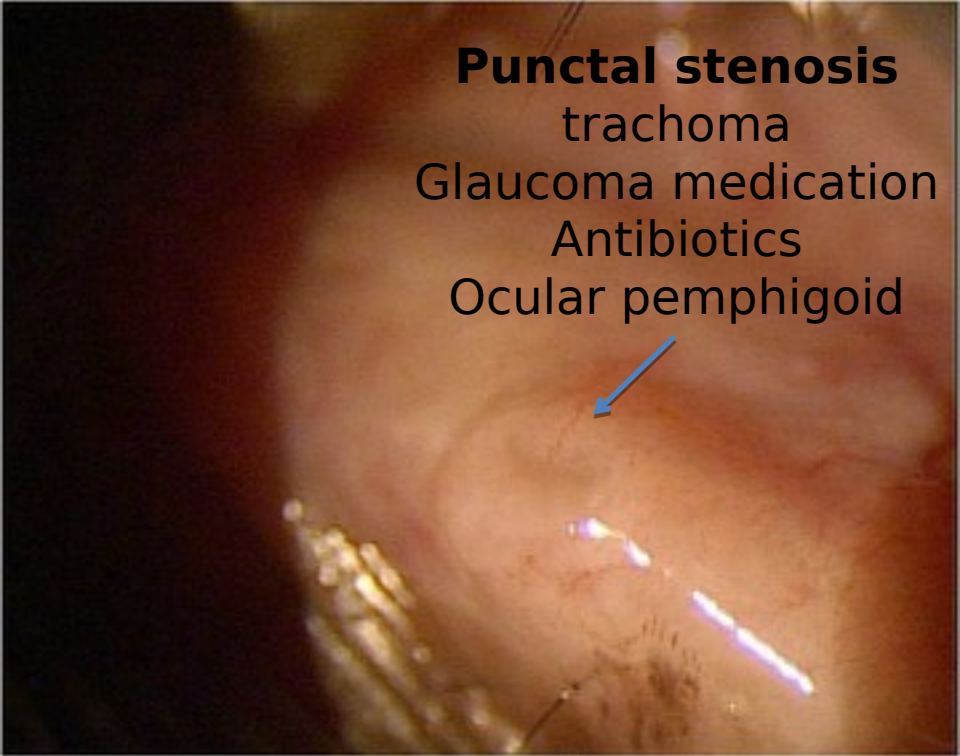


# Epiphora

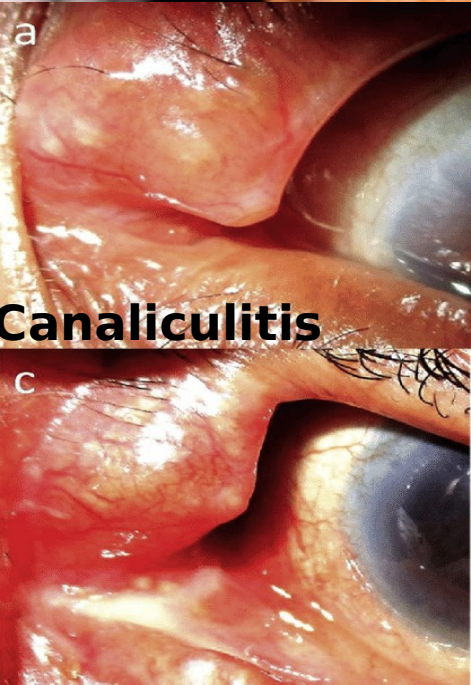
- Is overflow of tears onto the cheek due to failure of tear drainage
- Causes: ECTROPION or an OBSTRUCTION of drainage system; puncti, canaliculi & most commonly in the **NASOLACRIMAL DUCT**

Blocked Tear Ducts - Nasolacrimal Duct Obstruction





**Punctal stenosis**  
trachoma  
Glaucoma medication  
Antibiotics  
Ocular pemphigoid



**Canaliculitis**



**Sulfur granules**





# How to evaluate a patient with epiphora?



- ROPLAS compress sac
- Dye Disappearance test

One drop 2% fluorescein the lower fornix wait 5 min Both sides are compared simultaneously.

- Little or no fluorescein remaining normal drainage
- Dye remaining partial or complete obstruction

- Lacrimal syringing

Salty or sugary solution

Failure to perceive the taste in the throat indicates obstruction.



- Complications:
  - Problem of epiphora
  - Recurrent conjunctivitis
  - Acute dacryocystitis
  - Endophthalmitis following cataract surgery
- Treatment: surgical
  - **Probing** in children
  - the standard procedure is **DCR**  
**Dacryocystorhinostomy**
  - Punctal occlusion **snipping**
  - Canalicular obstruction **dilatation & NL tube**

- ACUTE DACRYOCYSTITIS:

- acute suppurative inflammation of the lacrimal sac on top of **nasolacrimal duct obstruction**
- **pain**
- Acute swelling medially **below** the medial palpebral ligament
- Systemic antibiotics and hot compresses
- Drainage if **pointed**

- CHRONIC DACRYOCYSTITIS:

- Mild inflammatory swelling **below** the medial palpebral ligament
- Due to nasolacrimal duct obstruction in **post-menopausal females**
- **Positive regurge test**
- Surgical treatment by **Dacryocystorhinostomy**



Acute Dacryocystitis



Dacryoadenitis

